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DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

*An Assessment of the Rolling Thunder Program
Through 31 May 1967*

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Summary

AN ASSESSMENT OF THE ROLLING THUNDER PROGRAM
THROUGH 31 MAY 1967

Summary

The Rolling Thunder program has made some progress in meeting its current twofold objective:

1. To limit, or raise the cost of, the movement of men and supplies to South Vietnam.
2. To make North Vietnam pay a price for its aggression against the South.

The recent expansion of the bombing program has had some positive effects relative to these objectives, particularly in the modern sector of the North Vietnamese economy. Increased disruptions to orderly economic activity and sustained pressures on North Vietnam's limited human and material resources are evident. The damage to economic and military target systems has not been sufficient, however, to cause a meaningful degradation of North Vietnam's ability to support the war, at least at current levels of combat. There are no signs that the determination of the regime to persist in its aggression has abated. Despite increasing hardships, popular morale has not eroded to the point where widespread apathy and war weariness are threatening the control of the Hanoi regime.

The bombing program has forced North Vietnam to divert from 575,000 to 700,000 individuals, about equally divided between full-time and part-time workers and troops, to air defense activities and to repair, reconstruction, and dispersal programs. The cost of physical and military damage has been growing. Total damage resulting from air attacks through May 1967 is estimated at nearly \$266 million. Nearly 70 percent of this damage was inflicted on economic target systems (see Figures 1 and 2, following p. vii).

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Despite the increasing costs and burdens resulting from the air attacks, North Vietnam, aided by an increased flow of imports from the USSR and Communist China, has managed to maintain, and in many respects to improve, its organized support of the war. The electric power industry has been the most heavily damaged sector of the economy, and its neutralization may paralyze almost all of the modern industrial sector. However, the modern sector makes only a marginal contribution to the war effort since virtually all war-supporting materiel is imported. Other important targets which have been subjected to heavy attack -- particularly transportation and petroleum storage facilities -- have successfully employed countermeasures so that their overall performance and support capabilities remain as high as, if not higher than, they were when the bombing programs started.

The attacks on military target systems through May 1967 had not significantly reduced the capabilities of the military establishment. These capabilities have, in fact, been greatly expanded through large infusions of military aid from the USSR and Communist China.

The ability of North Vietnam to withstand the pressures of air attacks is explained by several factors. The economy is essentially agrarian and provides little direct input, other than manpower, into the war in the South. The increasing flow of essential economic and military aid into North Vietnam far surpasses the total damage resulting from air attacks. This aid provides North Vietnam the necessary materials to continue the war. It also implies that the USSR and Communist China will underwrite the damage sustained and the eventual reconstruction of the country, as they did in the case of North Korea. Finally, the North Vietnamese have devised and employed an elaborate and highly successful system of countermeasures -- dispersal of industry, mobilization of labor units, evacuation of population, and the like -- which negates most of the desired impact of air attack on the vital flow of men and supplies to the war in the South.

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During January-May 1967 the number of sorties flown against North Vietnam was at a rate about 22 percent higher than during 1966 (see figures 3 and 4 following p.vii). Over 2,500 sorties were flown against fixed JCS targets compared with 2,620 sorties during all of 1966. The armed reconnaissance program changed dramatically. Almost one-half of all armed reconnaissance sorties were flown against non-JCS fixed targets compared with about 25 percent throughout 1966. Despite the extension of the Rolling Thunder program to more densely populated and heavily defended areas, the overall aircraft loss rate during 1967 declined, with the exception of losses during strikes against targets in the immediate urban areas of Hanoi and Haiphong.

The recent concentration of attacks against lucrative fixed targets in the northern parts of North Vietnam has resulted in an improved trend in the costs of inflicting damage on North Vietnam. There is little prospect for improved cost effectiveness in the future, however, because the number of significant undamaged targets is decreasing rapidly.

The results to be expected from a further expansion of the bombing program, with the possible exception of a mining program, are limited, ruling out attacks on dikes or population centers. Experience indicates that the remaining land transportation targets will be extremely difficult and costly to interdict. The few lucrative economic targets remaining do not make a significant contribution to the war effort, and their loss can be compensated by additional foreign aid. The neutralization of the remaining military targets, such as airfields, SAM sites, and radars, would reduce losses to US aircraft but would have virtually no effect on the ability of Hanoi to support the war in the South.

In summary, no bombing program alone is likely to create sufficient pressures or problems to prevent Hanoi from sustaining the flow of essential military materials and continuing its support of

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the war in the South. While the mining of Haiphong and other ports would impose greater hardships on North Vietnam and raise further the cost of sustaining the insurgency than would other alternatives, such action, by itself, would probably not have a decisive impact on North Vietnam's determination to pursue the war.

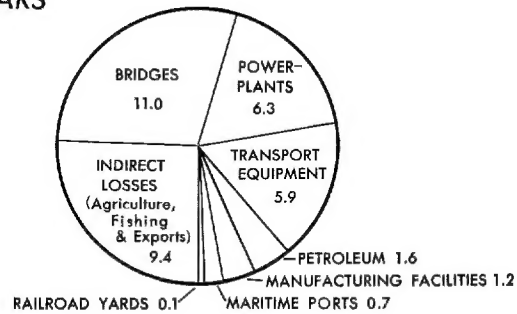
Virtually all of the remaining economic targets are concentrated in densely populated and heavily defended areas of North Vietnam. Their neutralization could be very costly to US air forces. The recent attacks on targets in the immediate Hanoi-Haiphong areas indicate, for example, that the combat loss rate for US aircraft could be as much as 10 times greater than that experienced in the air campaigns over other areas of North Vietnam.

Continued harassment and attacks on the road, rail, and trail network in the southern portion of North Vietnam and in Laos will not prevent or stop infiltration but will make it more costly and will force North Vietnam to pay a continuing price on its own territory for its continued support of the war in the South.

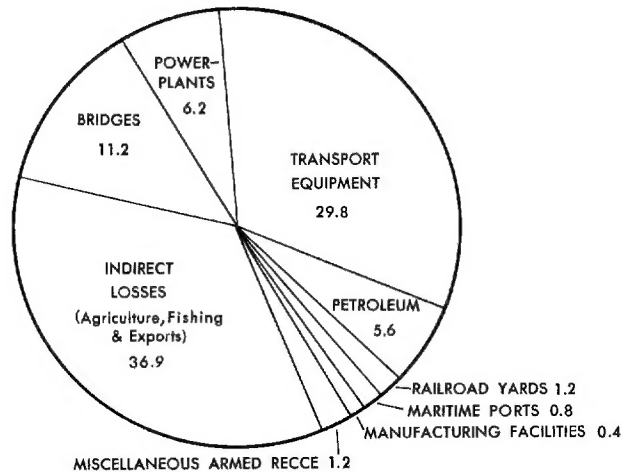
ECONOMIC DAMAGE

MILLION US DOLLARS

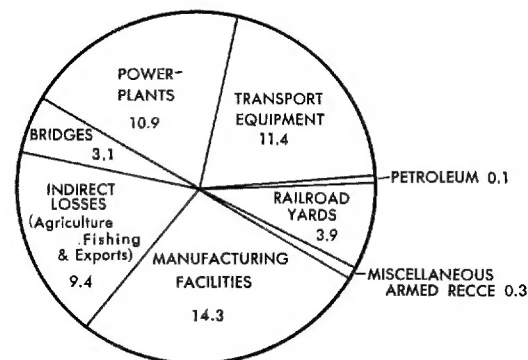
1965
36.2



1966
93.3



1967
Jan- May
53.4



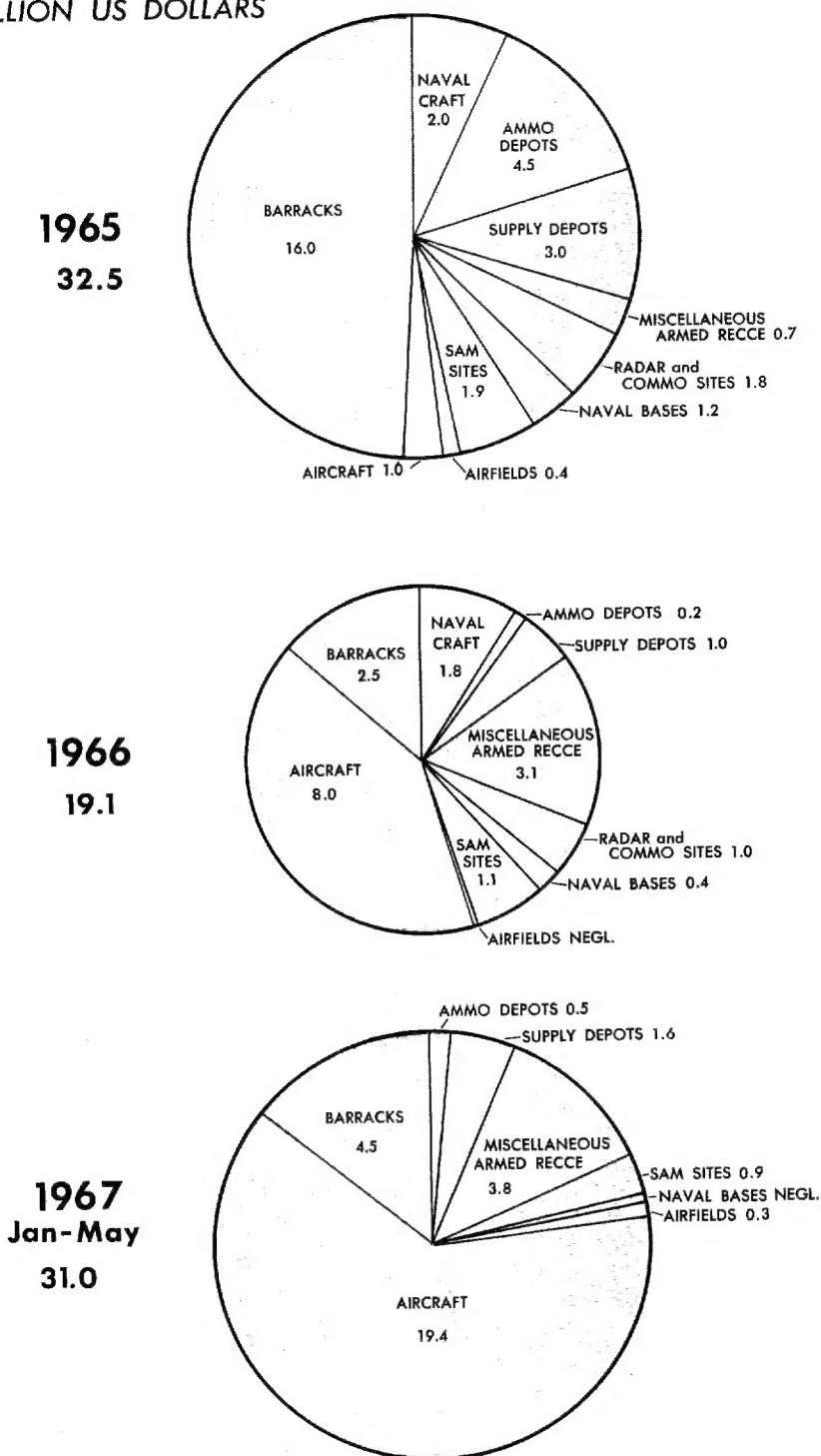
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Figure 1. Value of Economic Damage in North Vietnam, by Sector, 1965, 1966, and January - May 1967

MILITARY DAMAGE

MILLION US DOLLARS



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Figure 2. Value of Military Damage in North Vietnam by Sector 1965, 1966, and January - May 1967

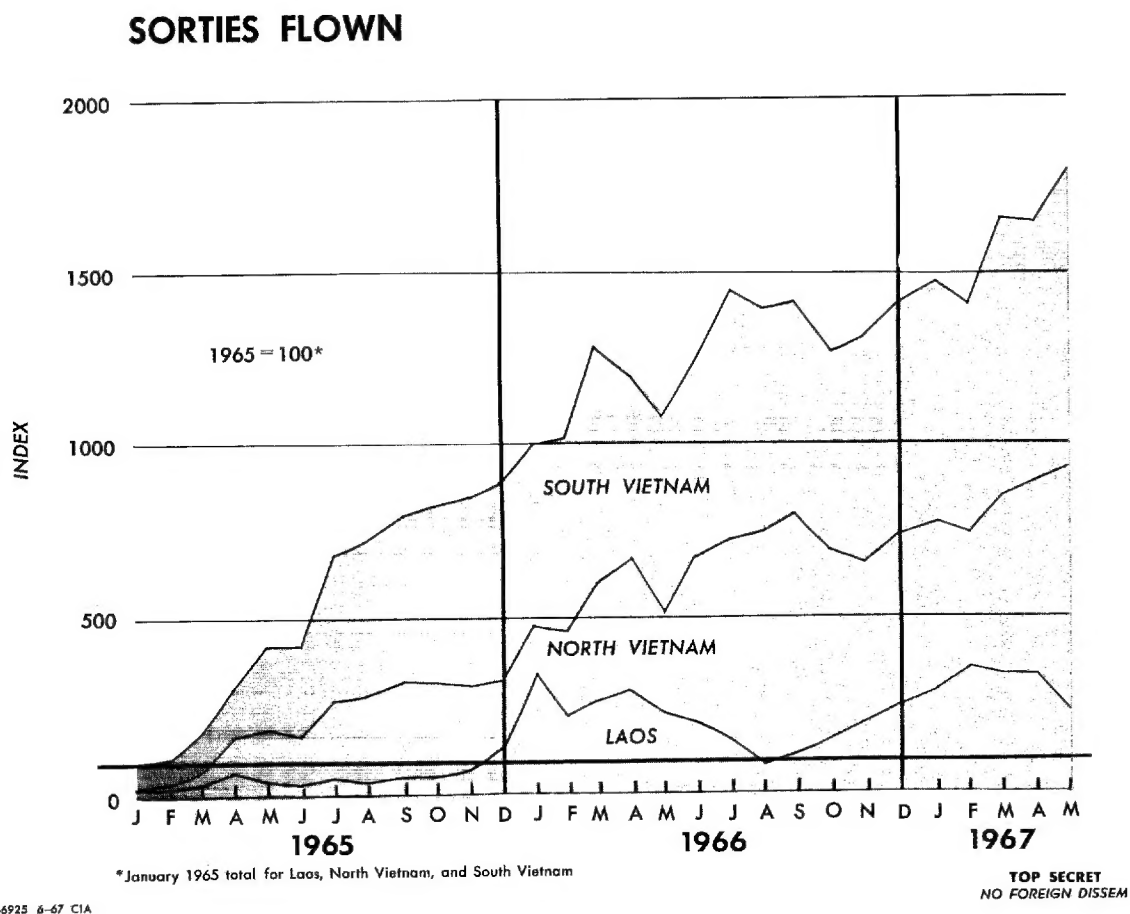


Figure 3. Index of Sorties Flown in Southeast Asia and Relative Amounts in Each Area, 1965, 1966, and First Five Months 1967

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